



DEPARTMENT OF THE NAVY

NAVAL SEA SYSTEMS COMMAND  
2531 JEFFERSON DAVIS HWY  
ARLINGTON, VA 22242-5160

IN REPLY REFER TO

January 2, 1997

Dear Sir or Madam,

Enclosed is the Record of Decision for a container system for the management of naval spent nuclear fuel.

In the Record of Decision, the Department of the Navy (as lead agency) and the Department of Energy (as a cooperating agency) announce their decision regarding selection of a container system for the loading, storage, transport, and possible disposal of naval spent nuclear fuel following examination.

The decision announced in this Record of Decision is based upon the environmental information and analyses developed in preparing the Department of the Navy's Environmental Impact Statement (EIS) for a Container System for the Management of Naval Spent Nuclear Fuel and includes consideration of public comments and concerns received during the public comment period, cost factors, technical feasibility, operational efficiency, regulatory impacts, and storage or disposal criteria which may be established for a geologic repository or centralized interim storage site outside the State of Idaho. The final EIS tiers from analyses completed in the DOE Programmatic Spent Nuclear Fuel Management and INEL Environmental Restoration and Waste Management Programs Final Environmental Impact Statement (April 1995) and this decision is consistent with decisions made based on that EIS.

For further information, or to request additional copies of the Record of Decision or the Final Environmental Impact Statement, please contact William Knoll, Department of the Navy, Code NAVSEA 08U, 2531 Jefferson Davis Highway, Arlington, VA 22242-5160.

We appreciate your interest in this matter.

Sincerely,

*Richard A. Guida*

Richard A. Guida  
Associate Director  
for Regulatory Affairs  
Naval Nuclear Propulsion Program

Enclosure

BILLING CODE 3810-FF-P

DEPARTMENT OF DEFENSE

DEPARTMENT OF THE NAVY

RECORD OF DECISION FOR A DRY STORAGE CONTAINER SYSTEM FOR THE  
MANAGEMENT OF NAVAL SPENT NUCLEAR FUEL

**SUMMARY:** Pursuant to section 102(2) of the National Environmental Policy Act (NEPA) of 1969; the Council on Environmental Quality regulations implementing NEPA procedures, 40 CFR Parts 1500-1508; and Chief of Naval Operations Environmental and Natural Resources Program Manual, OPNAV Instruction 5090.1B; the Department of the Navy announces its decision to implement the preferred alternative (dual-purpose canisters) identified in the final Environmental Impact Statement for a Container System for the Management of Naval Spent Nuclear Fuel (EIS) dated November 1996. The Department of Energy (DOE), which participated as a cooperating agency, formally adopted the final EIS on October 9, 1996 (designated as DOE/EIS-0251) (61 FR 59435) and has concurred in this Record of Decision. The DOE was a cooperating agency because the DOE, under the Nuclear Waste Policy Act, is responsible for the ultimate disposition of all spent nuclear fuel, including civilian and military. The DOE is also responsible for the facilities at the Idaho National Engineering Laboratory (INEL) where naval spent nuclear fuel is currently stored. The Navy will utilize a dual-purpose canister system for the management of naval spent nuclear fuel and the management of naval special case low-level radioactive waste. A dual-purpose canister system will be used for the loading, dry

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storage, transport, and possible disposal of naval spent nuclear fuel following examination at the INEL. This Record of Decision neither decides nor presumes that naval special case waste will be shipped to a geologic repository or a centralized interim storage site as naval spent nuclear fuel.

**ADDRESSES:** Copies of the final EIS and other information related to this Record of Decision are available in the public reading rooms and libraries identified in the **Federal Register** notice that announced the availability of the Final EIS (61 FR 59423). For further information on the Navy's utilization of a dry storage container system for naval spent nuclear fuel, or to receive a copy of the final EIS, contact William Knoll, Department of the Navy, Code NAVSEA 08U, 2531 Jefferson Davis Highway, Arlington, VA 22242-5160, (703)603-6126. For information on the DOE's NEPA process, please contact Carol M. Borgstrom, Director, Office of NEPA Policy and Assistance (EH-42), U.S. Department of Energy, 1000 Independence Avenue SW, Washington, D.C. 20585, (202)586-4600 or leave a message at 1-800-472-2756.

#### INTRODUCTION

More than 40% of the Navy's principal combatants are nuclear powered. Since 1955, U.S. nuclear powered warships have steamed safely more than one hundred million miles and accumulated over 4,700 reactor years of safe operation. Continued operation of the Navy's nuclear powered warships remains a vital element of

the Navy's ability to fulfill its national security mission in support of our nation's defense.

The Navy creates spent nuclear fuel through the operation of its nuclear powered warships and training reactors. When a warship is refueled for continued service or is defueled because it is being inactivated, its spent nuclear fuel is removed at a shipyard. Similarly, naval spent nuclear fuel is removed from afloat and land-based training reactors when they are refueled or deactivated. In all cases, the naval spent nuclear fuel is transported to the INEL in southeastern Idaho where it is examined at the Expanded Core Facility (ECF) located at the Naval Reactors Facility (NRF). This examination is essential to verify the performance of current naval nuclear fuel and to support the design of naval fuel with longer lifetimes. After examination, the naval spent nuclear fuel is transferred to the Idaho Chemical Processing Plant (ICPP) for storage in water pools pending final disposition. Currently, there are approximately 13 metric tons of heavy metal of naval spent nuclear fuel at the INEL. A total of approximately 65 metric tons of naval spent nuclear fuel will exist by the year 2035.

The Navy is committed to ensuring that post-examination naval spent nuclear fuel is managed in a fashion which (1) facilitates ultimate safe shipment to a permanent geologic repository or centralized interim storage site outside the State of Idaho; (2) protects the Idaho environment while being temporarily stored at the INEL; (3) is consistent with the DOE

Programmatic Spent Nuclear Fuel Management and INEL Environmental Restoration and Waste Management Programs Final Environmental Impact Statement (April 1995); and (4) complies with the court ordered agreement among the State of Idaho, the DOE, and the Navy, which is discussed in this Record of Decision under LEGAL AND REGULATORY CONSIDERATIONS.

Until a geologic repository or centralized interim storage site outside the State of Idaho (discussed in Section 2.8.2 of the final EIS) is available, the Navy is committed to a number of actions to ensure uninterrupted operation of the Navy's nuclear powered fleet. These include transfer of all naval spent nuclear fuel at the INEL out of wet storage facilities into dry storage, completion of a Dry Cell expansion project at the ECF, completion of Hot Cell facility upgrades at the ECF, construction of an ECF dry storage container loading station, and performance of certain environmental restoration work at the NRF. The high integrity and rugged nature of naval spent nuclear fuel make it exceptionally well suited for safe transport, storage, and ultimate disposal after service. The Navy must make a decision on the type of dry storage container system now in order to support planning required to meet its commitment as discussed in this Record of Decision under LEGAL AND REGULATORY CONSIDERATIONS for dry storing naval spent nuclear fuel and ultimately shipping it out of the State of Idaho.

#### ALTERNATIVES CONSIDERED

The Navy considered six alternative dry storage container

systems for the loading, storage, transport, and possible disposal of post-examination naval spent nuclear fuel and the management of special case waste. The alternatives make use either of existing dry storage containers or of dry storage containers that could be produced by manufacturers of such equipment. Because of differences in configurations of naval spent nuclear fuel assemblies, all of the alternatives require containers to have internal baskets designed for specific naval spent nuclear fuel types.

Two time frames were used for analyses. For complete system operations, 1996-2035, a time period of 40 years is used. For analyses concerning transportation to a spent nuclear fuel repository and handling of post-examination naval spent nuclear fuel at the INEL, the period 2010 to 2035 (25 years) was used because a repository would be expected to begin accepting spent nuclear fuel before 2010. The actual date that a repository would begin accepting spent nuclear fuel would have minimal impact on the results presented in the final EIS and would not change the number of shipments to be made.

There is also the possibility that a centralized storage site may be designated for interim storage of civilian spent nuclear fuel until a repository is available. If such a centralized interim storage site were opened and if naval spent nuclear fuel were allowed by law to be stored there, transportation of naval spent nuclear fuel might begin before 2010. A range of transportation routes was analyzed in the EIS.

As such, the transportation analyses are suitable for comparison of the impacts associated with transportation to a centralized interim storage site among alternatives.

A brief description of the six alternatives follows:

1) No-Action Alternative - Use of existing technology to handle, store, and subsequently transport naval spent nuclear fuel to a geologic repository or a centralized interim storage site using the Navy M-140 transportation cask. Prior to shipment to a repository or centralized interim storage site, naval spent nuclear fuel would be managed at the INEL in water pools or commercially available dry storage containers, then loaded into M-140 transportation casks. At a repository, the naval spent nuclear fuel would be unloaded from the M-140 transportation casks and placed in a geologic repository's surface facilities for loading into disposal containers. Following unloading, the M-140 transportation casks would be returned to the INEL for reuse. Because existing M-140 transportation casks are needed to maintain scheduled fleet refuelings and defuelings, approximately 24 additional M-140 transportation casks would have to be manufactured to handle the shipment of about 425 cask loads of naval spent nuclear fuel to a repository between 2010 and 2035. Two hundred and twenty-five dry storage containers would be required for use at the INEL, and 300 disposal containers would be required under this alternative. For the management of special case waste, up to 30 additional dry storage containers, four additional M-140 transportation casks, and 60 additional

disposal containers would be needed.

2) Current Technology/Supplemented by High Capacity Rail

Alternative - This alternative uses the same storage methods and M-140 transportation casks described in the no-action alternative, but with redesigned internal structures for the M-140 cask to accommodate a larger amount of naval spent nuclear fuel per cask, thus reducing the total number of shipments required. For the purpose of analysis, the EIS assumes that approximately 24 additional M-140 transportation casks would be needed in order to expedite shipment of approximately 325 containers of naval spent nuclear fuel by rail to a repository or centralized interim storage site. One hundred and fifty dry storage containers would be required for use at the INEL, and 300 disposal containers would be required under this alternative. For the management of special case waste, up to 26 additional dry storage containers, four additional M-140 transportation casks, and 60 additional disposal containers would be needed.

3) Transportable Storage Cask Alternative - This alternative uses an existing, commercially available transportable storage cask for storage at the INEL as well as for transportation to a repository or centralized interim storage site. At a repository, individual assemblies of naval spent nuclear fuel would be unloaded from the casks and placed in surface facilities for loading into disposal containers. The unloaded transportable storage casks would be returned to the INEL for further storage and transport. Approximately 325 shipments of the reusable

transportable storage cask (150 casks required) would be necessary for the shipment of all naval spent nuclear fuel and 300 containers would be required for disposal. For the management of special case waste, up to 21 additional storage casks and 60 additional disposal containers would be needed.

4) Dual-Purpose Canister Alternative - This alternative uses an existing, commercially available canister and overpack system for storage at the INEL and shipment of naval spent nuclear fuel to a geologic repository or centralized interim storage site. At a repository, the naval spent nuclear fuel would be unloaded from the canisters and placed in surface facilities for loading into disposal containers. Approximately 300 canisters would be required for dry storage and shipment of naval spent nuclear fuel by rail to a repository or centralized interim storage site. In addition, 150 dry storage overpacks for use at the INEL, 15 transportation overpacks, and 300 disposal containers would be required. For the management of special case waste, up to 45 additional canisters, 23 additional storage overpacks, three additional transportation overpacks, and 60 additional disposal containers would be needed.

5) Multi-Purpose Canister Alternative - This alternative uses about 300 large (125-ton) multi-purpose canisters for storage, transportation, and disposal of naval spent nuclear fuel, without repackaging or further handling of individual spent nuclear fuel assemblies. In addition to the sealed metal canisters, specialized casks or overpacks would be required for different

stages of the process, including 150 dry storage overpacks for use at the INEL, 15 transportation overpacks for transporting naval spent nuclear fuel to a geologic repository or centralized interim storage site, and 300 disposal overpacks for disposal in a repository. For the management of special case waste, up to 60 additional canisters, 30 additional storage overpacks, three additional transportation overpacks, and 60 additional disposal overpacks would be needed.

6) Small Multi-Purpose Canister Alternative - This alternative uses about 500 smaller (75 ton) multi-purpose canisters, rather than large multi-purpose canisters. The small multi-purpose canisters would be similar in design, operations, and function to the large multi-purpose canisters, but would offer a lower weight and size alternative for transportation and handling at a geologic repository or centralized interim storage site. Two hundred and twenty-five dry storage overpacks for use at the INEL, 25 transportation overpacks for transporting naval spent nuclear fuel to a geologic repository or centralized interim storage site, and 500 disposal overpacks for disposal in a repository would be required. For the management of special case waste, up to 85 additional canisters, 39 additional storage overpacks, five additional transportation overpacks, and 85 additional disposal overpacks would be needed.

#### DECISIONS

The Navy announces its decision to use a dual-purpose canister system for the management of post-examination naval

spent nuclear fuel and special case low-level radioactive waste. The primary benefits of a dual-purpose canister system are efficiencies in container manufacturing and fuel reloading operations and potential further reduction in radiation exposure. A dual-purpose canister system will allow the safe storage and shipment of naval spent nuclear fuel for ultimate disposition. The system might also be found to be acceptable for disposal purposes once the disposal requirements for a geologic repository have been formulated and finalized, making it functionally equivalent to a multi-purpose canister system.

The Navy evaluated each of the alternatives to a set of criteria in order to select a preferred alternative. The results of that evaluation are summarized briefly below.

There was no obvious preference for any dry storage container system based on public comments. Further, all of the alternative dry storage container systems technically support the storage, shipment, and disposal of naval spent nuclear fuel.

The Department of the Navy's analysis of the environmental and public health impacts from the following would be small and would differ little among alternatives: the manufacture of any of the dry storage container systems; the operations of handling, storage, transportation and unloading at a repository; and the construction of facilities. All alternatives are considered comparable and indistinguishable under this criterion, thus, there is no environmentally preferred alternative.

Cost comparisons were based on procurement costs for

equipment, as well as handling, storage, transportation and container disposal costs. Under this criterion, the dual-purpose canister system has a medium comparative cost. The multi-purpose canister has the lowest comparative cost, in part because the fuel assemblies would only be handled one time, but since no multi-purpose canisters currently exist the cost comparison is somewhat conjectural. If the dual-purpose canister alternative meets the repository design criteria for disposal packages when those criteria are established, fuel assemblies would be handled once instead of twice, and the cost would decrease such that it would be comparable with the multi-purpose canister. There is a high probability that a dual-purpose canister system for naval spent nuclear fuel can be produced successfully and economically because it is similar to currently available systems for civilian spent fuel.

To evaluate operational efficiency, the Navy evaluated the processes which must be performed for any of the alternatives, including: loading fuel into dry storage containers, unloading fuel from dry storage containers for shipment, off-site transport, and loading or reloading fuel at a geologic repository surface facility for ultimate disposal. Each of these general operations may be performed once, multiple times, or not at all, depending on the system implemented. Each of the alternatives can be categorized as either a cask or a canister system based on whether the naval spent nuclear fuel would be transferred from storage for shipment as collections of individual fuel assemblies

(cask) or as a unit inside a sealed package (canister).

It was concluded from the process evaluation that multi-purpose canister systems would be the most efficient systems when considering the handling of fuel. Individual fuel assemblies would not have to be unloaded from the canisters once they had been loaded for the multi-purpose canister alternatives. The individual fuel assemblies would be handled only one time:

during the initial loading of the canister. The most inefficient systems from this standpoint are the No-Action and the Current Technology/Rail Alternatives because individual fuel assemblies must be handled three times, once for each packaging operation.

For the dual-purpose canister system, the individual fuel assemblies would be loaded into a canister prior to storage. The canister would not need to be reopened prior to packaging the canister for transportation. It is possible that at a geologic repository the individual fuel assemblies may need to be handled in the process of packing disposal containers. However, if the canisters meet repository disposal criteria when these criteria are established, the dual-purpose canister system would be functionally equivalent to a multi-purpose canister system in that the individual fuel assemblies would be handled only once. Although handling fuel is routinely accomplished safely without impact on human health or the environment, doing it multiple times is inefficient, and incurs additional occupational radiation exposure and some risk.

With respect to regulatory and disposal criteria impacts,

the only anticipated changes that may affect the selected alternative are in the area of repository disposal regulations. The Environmental Protection Agency (EPA) is expected to issue revised draft standards (40 CFR 197) for a geologic repository in 1997. The Nuclear Regulatory Commission (NRC) plans to issue changes to its repository disposal regulations (10 CFR 60) to establish design criteria within one year of the issue of the EPA standards.

Based on the uncertainties and far term nature of the disposal regulations, there are no discernible advantages or disadvantages associated with any of the alternatives based on potential impact of disposal regulations. No changes affecting this evaluation in the storage and transportation regulations are anticipated and all of the alternatives would meet the current regulations.

The Navy anticipates that final waste acceptance criteria for a geologic repository will not be established for at least five years. As a result there is some uncertainty in implementing a multi-purpose canister system at this time. The Navy cannot wait five years for the establishment of waste criteria plus any additional time required to develop a multi-purpose canister based on such criteria in order to meet its commitment as discussed in this Record of Decision under LEGAL AND REGULATORY CONSIDERATIONS. If a multi-purpose canister is not compatible with geologic repository criteria, the fuel canisters may need to be opened and the individual fuel

assemblies handled and placed into acceptable disposal containers. In this event the multi-purpose canister system would essentially become a dual-purpose canister system.

The Navy also considered the direction of industry and standardization in selecting an alternative. In implementing a dry storage container system for the management of naval spent nuclear fuel, there is an advantage in utilizing a system compatible with the systems in use or planned for use by operators of reactors which commercially generate electricity. All spent nuclear fuel, commercial and naval, is destined for the same geologic repository or could be destined for the same centralized interim storage site if such a site were opened and naval spent nuclear fuel were allowed by law to be stored there. Naval spent nuclear fuel containers will represent only about one to four percent of the total number of containers that would be shipped to a repository or centralized interim storage facility. Therefore, to the extent that the most widely used systems for commercial spent nuclear fuel drive any repository design or acceptance criteria, it is considered prudent to utilize a system which is similar to the systems being used or planned for use by commercial electric utilities. Other advantages to using the same system or one similar to that which the commercial utilities have recently licensed through the NRC include prior completion of extensive technical reviews, prior completion of peer and public review, and some proven applications which may be in operation.

The majority of the new spent nuclear fuel storage systems being designed or in review by the NRC are dual-purpose systems with different overpacks for storage and transport. The 125-ton multi-purpose canister, the 75-ton multi-purpose canister, the transportable storage cask and the dual-purpose canister system were all found to reflect current industry direction. The No-Action and the Current Technology/Rail Alternatives do not.

Finally, the Navy looked at technical uncertainties and risks. There are no substantial technical uncertainties associated with the loading of naval nuclear spent fuel into dry storage containers, the storage of the containers at the INEL, or the transportation off-site to a geologic repository. All of the alternatives assume the use of dry storage containers which will meet the storage requirements of 10 CFR 72 and the transportation requirements of 10 CFR 71. Several licensed systems are currently in use and other new systems are in the review cycle for NRC approval for use.

As discussed in this Record of Decision under LEGAL AND REGULATORY CONSIDERATIONS, the Navy must select a dry storage container system now to support completion of its commitments for dry storing naval spent nuclear fuel. Thus, the Navy cannot wait a minimum of five years anticipated for the establishment of waste criteria plus any additional time required to develop a multi-purpose canister based on such criteria. Dual-purpose canisters represent the best system given the need to make a decision now and their favorable comparison to the other

alternatives considering cost, operational efficiency, industry trends, regulatory acceptance, and the other criteria discussed above.

#### MITIGATION

The strictly controlled conduct of operations associated with the DOE and Naval Nuclear Propulsion Program spent fuel management activities are mitigation measures integral to the selected alternative. The DOE and the Naval Nuclear Propulsion Program have directives and regulations for conduct of spent nuclear fuel management operations. All government spent fuel shipments must comply with the DOE and Department of Transportation regulations. The DOE and the Navy have adopted stringent controls for minimizing occupational and public radiation exposure. The policy of these programs is to reduce radiation exposures to as low as reasonably achievable (ALARA). Singly and collectively, these measures avoid, reduce, or eliminate any potentially adverse environmental impacts from spent nuclear fuel management activities, including those associated with containerization. The Navy and the DOE have not identified a need for additional mitigation measures.

#### LEGAL AND REGULATORY CONSIDERATIONS

The Record of Decision for the DOE Programmatic Spent Nuclear Fuel Management and Idaho National Engineering Laboratory Environmental Restoration and Waste Management Programs Final Environmental Impact Statement was issued on June 1, 1995 (60 FR 28680). On October 17, 1995, the federal District Court

entered a Consent Order that resolved all issues related to the EIS raised by the State of Idaho and the Governor of Idaho. The Consent Order incorporated as requirements all of the terms and conditions of the parties' Settlement Agreement, including a reduction in the number of spent nuclear fuel shipments coming to the State of Idaho.

All proposed actions by the Navy will be in full compliance with the requirements of the Consent Order/settlement agreement among the State of Idaho, the U.S. Navy, and the DOE. The settlement agreement included an obligation of the Naval Nuclear Propulsion Program to fund a dry storage container loading station at ECF, expending no less than \$20 million on that project by October 2000. This Record of Decision is consistent with that obligation. The settlement agreement also obligates the DOE to commence moving spent nuclear fuel currently in water pool storage into dry storage by July 1, 2003.

In addition to the Consent Order, Chapter 8 of the final EIS identifies the major applicable laws and regulations which the Department of the Navy is mandated to comply with in the fabrication and utilization of a dry storage container system for the management of naval spent nuclear fuel.

#### PUBLIC INVOLVEMENT

On October 24, 1994, the DOE published a Notice of Intent in the **Federal Register** (59 FR 53442) to prepare an EIS for a multi-purpose canister system for the management of civilian spent nuclear fuel. As part of the public scoping process, the scope

of the EIS for the multi-purpose canister system was broadened to include naval spent nuclear fuel. This determination was included in the Implementation Plan whose availability was announced in the **Federal Register** on August 30, 1995

(60 FR 45147). However, the DOE halted its proposal to fabricate and deploy a multi-purpose canister based system and ceased preparation of that EIS.

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On December 7, 1995 the Department of the Navy published a notice in the **Federal Register** (60 FR 62828) assuming the lead responsibility for an Environmental Impact Statement evaluating dry storage container systems for the management of naval spent nuclear fuel. The Department of the Navy assumed the lead responsibility from the DOE and narrowed the focus of the EIS to include only naval spent nuclear fuel. Despite the narrowing of the focus to only naval spent nuclear fuel and the change in lead agency, the range of dry storage container alternatives being considered did not change. Thus the EIS did not require another scoping process. The DOE became a cooperating agency rather than the lead agency in the preparation of that EIS.

On May 1, 1996, the Navy distributed the Draft EIS. The Notice of Availability of the Draft EIS was announced in the **Federal Register** on May 14, 1996 along with the locations and dates of public hearings (61 FR 24293). The Draft EIS was widely distributed to public officials, tribal officials, and state agencies in the areas of potential interest, as well as to

individuals requesting the document. The public comment period for the EIS was originally scheduled to be 45 days, but a 15-day extension was granted based on a request from the State of Nevada. During the public comment period, six public hearings were held and both written and oral comments were received. Oral and written comments were received from 51 parties, representing: federal, state, and local agencies and officials; special interest groups; and individuals.

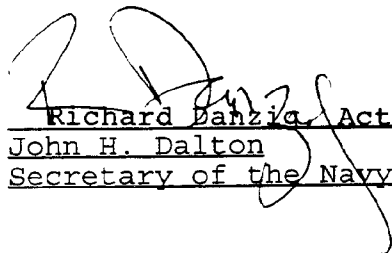
Although no substantive changes to the Draft EIS were needed as a result of public comments, several clarifications and editorial changes were made in response to comments. For example, the Final EIS was modified to clearly state that the effect of a terrorist attack or an act of sabotage is expected to be conservatively bounded by the limiting accidents already discussed. The discussion of transportation routes used in the analysis was expanded to explain their application. In addition, the EIS was modified to enhance the reader's ability to use the results of analyses to evaluate the possibility that any of the alternatives might have a disproportionately high and adverse impact on minority or low-income populations.


A new Chapter 11 was added to the Final Environmental Impact Statement in which each comment was reprinted in its entirety, followed immediately by individual responses to each of the major points. The EPA formally announced the availability of the final EIS on November 22, 1996 (61 FR 59435). The Navy also announced the availability of the final EIS on November 22, 1996 (61 FR 59423).

# APPROVAL

This Record of Decision constitutes the Department of the Navy's final action with regard to selection of a dry storage container system for the management of post-examination naval spent nuclear fuel and naval special case low-level radioactive waste. This Record of Decision does not constitute final action for location(s) for dry loading naval spent nuclear fuel which is currently stored at the ICPP or which will be stored at ICPP prior to establishment of a dry storage facility, or for location(s) for temporary dry storage of naval spent nuclear fuel at the INEL. Those actions will be the subject of an upcoming Record of Decision.

Issued in Washington, D.C., this 26<sup>th</sup> day of December 1996.

  
Richard Danzig, Acting  
John H. Dalton  
Secretary of the Navy.

  
Alvin L. Alm  
Assistant Secretary for  
Environmental Management  
U.S. Department of Energy.